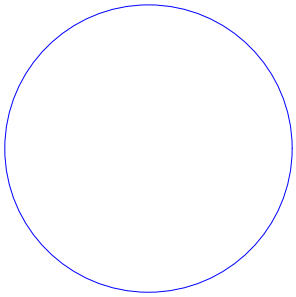

Fiberglass Boat Design and Construction

Available Spring of 1996

Robert J. Scott

This book presents the small boat designer and builder with a basic insight into the nature of fiberglass as a boatbuilding material, as well as a sound, yet simple, approach to analyzing fiberglass boat hull structures. The basic principles of fiberglass, including its advantages and disadvantages are outlined and thorough review is given to the characteristics of fiberglass materials and laminate design properties. In addition, valuable data is presented on basic design principles such as selection of structural loads, safety factors, deflection and vibration limitation. The level of detail presented in this book is tuned to the boat designer who recognizes the need for a sound engineering analysis of the fiberglass structures he designs, tempered with a practical, uncomplicated approach. The book is well illustrated and includes numerous step-by-step design examples to demonstrate the principles presented.

[FB], 1996, Hardbound, 2lbs.

List $40; Members $20

Ship Production

Richard L. Storch, Colin P. Hammon, Howard M. Bunch, and Richard C. Moore

State-of-the-art technology and its application to the principles and practices of ship production is the focus of this book, which is divided into three sections. The first section is an introduction, followed by shipbuilding terms, economic and production management theories and the general concept of group technology. This is followed by a description of the application of group technology to shipbuilding through a product-oriented work structure. The final section concludes with insights into related topics, such as the status of the U.S. shipbuilding industry and the application of group technology to ship conversion, overhaul and repair. Chapters are also devoted to basic maunfacturing and construction processes, historical and descriptive discussions of shipyard layout, a system for ship design and engineering to support the shipbuilding system, and design for production and CAD/CAM application. The book is suitable for teaching at the university level, both for the upperclass undergraduate and graduate courses, as well as serving as a valuable resource for practicing shipbuilding professionals.

[SP], 1995, Second Edition, 512 p., 4lbs.

List $80; Members $60

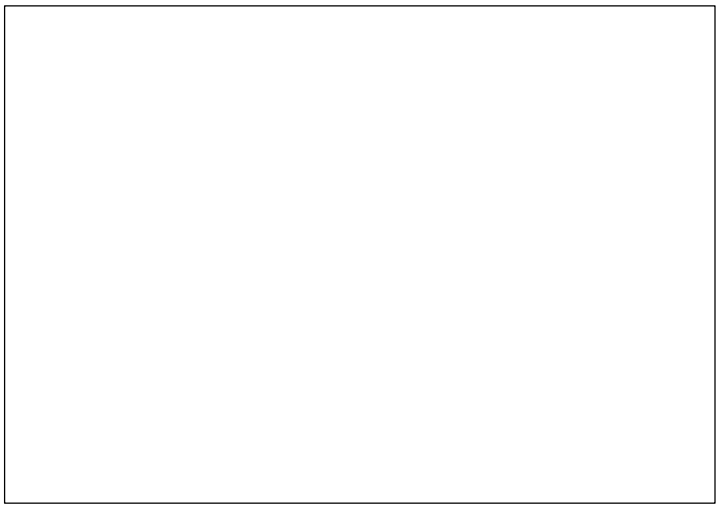

Photo courtesy of The Baltek Corportion

Environmental Proceedings

A symposium was held as part of the 1994 Annual Meeting that addressed issues dealing with design, retrofit and operation for the environment, pollution control technologies, and environmental regulatory compliance. All facets of these subjects were covered, from cargo containment, to waste management, to emission control, with consideration given to cargo ships, passenger vessels, workboats and recreational marine vessels. Transcripts from the recent *Estonia* tragedy and how it related to the need for future regulatory requirements for enhanced safety and pollution prevention are included. Attendees generally agreed that the Symposium presented unusually broad coverage of a complex subject, by combining the flexibility and timeliness of presentations by knowledgeable individuals.

[EP], 1995, Softbound, 323 p., 3lbs.

List $76; Members $38

Marine Engineering

Roy L. Harrington, ed.

The 1992 edition of *Marine Engineering* , originally published in 1942 and 1944 as two volumes, and subsequently revised in 1971, has seen more than 20 years of evolutionary changes in the maritime industry. A complete review of marine engineering, encompassing both naval and merchant practices and incorporating the broad range of technological developments that evolved during the last 20 years. Now includes material presenting the principles associated with pollution control, design for production, integrated logistic support and noise control, as well as expanded coverage of propulsion shafting and piping.

[ME] 1992, hardbound, 968 p., 5 lbs.

List $125; Members $95

This is a valuable reference for marine engineers and naval architects and for other engineers working in the marine engineering field. It is also a useful text for undergraduates in marine engineering and naval architecture fields.

Non-Technical

New Low Price

International Safety Standard Guidelines for the Operation of Tourist Submersibles

John A. Pritzlaff, ed.

A reference book to be used as a safety aid by all who design, build and operate tourist submersibles. The guidelines embody the marine expertise, good engineering practice and safety planning that should be considered in the design and operation of tourist submersibles in order to achieve an acceptable level of operational safety. Includes discussions on personnel, plans and procedures and equipment as well as extensive appendices compiled from the leading organizations in the field.

[R-39] 1993, hardbound, 311 p., 4lbs.

List $30 Members $25

Naval Architecture for Non-Naval Architects

Harry Benford

Written in engaging and easily understood terms, this volume concentrates on two aspects of naval architecture: design and analysis. Technical discussions are almost entirely qualitative rather than quantitative and coverage focuses on conventional ships and boats while answering questions about such matters as the proposed vessel's seaworthiness, structural integrity, powering requirements and functional capability.

[NNA] 1991, hardbound, 239 p., 3lbs.

List $24.50 Members $19.50

PHOTO HERE

Photo courtesy of Peter Jaquith

Ship Design and Construction

Robert Taggart, ed.

A treatise on the practical aspects of merchant ship design and construction, basic design, structure, materials, joining, outfit, equipment, environmental control, preservation and maintenance, shipyard practices, including launching and trials.

[SDC] 1980, hardbound, 748 p., 5lbs.

List $70 Members $35

Reference Books

Principles of Naval Architecture

Edward V. Lewis, ed.

A revision of the 1967 reference book on naval architecture covering ship's geometry, stability, flooding, strength, resistance and propulsion, vibration, ship controllability and motion in waves. A must-have reference for anyone involved in naval architecture. The 3-volume set includes:

Volume I—Stability and Strength;

Volume II—Resistance, Propulsion and Vibrations;

Volume III—Seakeeping and Controllability.

The authors most assuredly have met the stated objectives of bringing the basic science of naval architecture and marine engineering up-to-date by rewriting and emphasizing modern techniques and regulations, and adding modern and advanced ship types

[PNA] 1988, hardbound, 3-volume

List $180 Members $120 9 lbs.

or each volume...

[PNA I, II or III]

List $90; Members $60 3lbs.

Submersible Vehicle Systems Design

E. Eugene Allmendinger, ed.

A comprehensive and cohesive work on the major elements of manned submersible design. Useful to those concerned with the design, construction, operation and/or certification/classification of these underwater vehicles as well as those involved in the planning or management of ocean systems utilizing them.

[SUB] 1990, hardbound, 425 p., 350

List $140 Members $70, 4 lbs.

Ship Structural Design: A Rationally-Based, Computer-Aided Optimization Approach

Owen F. Hughes

Fundamental and essential aspects of rationally-based preliminary ship structural design in a complete and unified treatment. "Plate Bending", by Owen F. Hughes and J. B. Caldwell is a supplement to Chapter 9, which deals with elastic and inelastic plate response to both uniform and concentrated loads. This supplement also includes a 3.5" diskette (IBM compatible) computer program, PLATE, Version 2, for the ship structural design analysis methods and algorithms which performs plate bending calculations for flat steel plates.

[Ship Structural Design with Plate Bending Supplement]

List $120 Members $60 5 lbs.

[Ship Structural Design]

1995, hardbound, 566p.

List $100 Members $50 4 lbs.

[Plate Bending]

1991 , softbound, 43 p.

List $32 Members $17 1lb.

Hydrodynamics in Ship Design

Harold E. Saunders

Provides a working knowledge on the flow of water around a ship and how it produces the forces, moments and motions with which the ship designer, builder and operator are concerned. Included are the subjects of maneuvering and wave going of ships including forces, moments, prediction of response and design for good performance in waves.

[HY] 3-volume set, hardbound

Volume I: 1957, 648 p. Volume II: 1957, 980 p. Volume III: 1965, 507 p.

List $120; Members $60, 14 lbs.

The MarAd Systematic Series of Full-Form Ship Models

Donald P. Roseman, ed.

Comprehensive, systematic data on performance of vessels having hull-form characteristics with high values of length-beam ratio and high values of beam-draft ratio.

[FFT] 1987, hardbound, 421 p., 4 lbs.

Available on microfiche.

List $60 Members $30

Historical Perspectives

A Half Century of Maritime Technology: 1943-1993

Harry Benford, ed.

This volume of over 600 pages concentrates on a broad range of developments in maritime technology during the second half of SNAME's first century. Enhanced with over 400 photographs and illustrations and encompassing sixty-one chapters, topics range from "Aircraft Carriers" authored by Barry Tibbitts and the late Robert Riggins to "Yachts and Other Pleasure Craft" by Olin Stephens II. This unique volume has been edited by Harry Benford, professor emeritus at the University of Michigan.

[HCM]

1993, hardbound, 616 p., 503 illus.

List $45; Members $40

3 lbs.

Speed on the Ship!

William duBarry Thomas

This history of the Society, as written by William duBarry Thomas, chronicles the accomplishments and frustrations of one hundred years of growth. Mr. Thomas, a fourth generation member and great-grandson of a founder of the Society, has written and lectured extensively on maritime history.

[SOS]

1993, softbound, 205 p., 87 illust., 2 lbs..

List $19.95; Members $14.95

Periodicals

Journal of Ship Production

Quarterly publication for original and timely technical papers addressing problems of shipyard techniques and production of merchant and naval ships. Since its inception, the *Journal of Ship Production* has been a forum for peer-reviewed, professionally edited papers from academic and industry sources. As such, it has influenced the worldwide development of ship production engineering as a fully qualified professional discipline. Each issue contains a well-rounded selection of technical papers, including written discussions and authors' closures, relevant to ship production professionals.

[JSP]
Quarterly: Feb., May, Aug., Nov.
U.S. List $65.00
International List $75.00
Members $30.00

Journal of Ship Research

Quarterly publication for highly technical papers on applied research in hydrodynamics, propulsion, ship motions, structures and vibrations, immediately useful to naval architects and marine engineers. While the *Journal of Ship Research* requires that papers present the results of research that advances ship and ocean science and engineering, most contributions bear directly on other disciplines i.e., civil and mechanical engineering, applied mathematics and numerical analysis. The average issue publishes nine papers and is 90 pages in length. High quality papers are contributed from the U.S., Canada and overseas, with representation from established authorities as well as new researchers.

[JSR]
Quarterly: Mar., June, Sept., Dec.
U.S. List $80
International List $90
Members $35

Marine Technology/ SNAME News

This quarterly technical and news journal includes significant papers on a variety of subjects from Section meetings and other sources, plus news of Society national and local activities.

[MT]
Quarterly: Jan., April, July, Oct.
U.S. List $70.00
International List $80.00
Members: Complimentary

Transactions

Published annually since 1893. Includes all papers and annual reports presented at the Society's Annual Meeting, including certain award-winning technical papers.

[TR], 1995, Vol. 103
U.S. List $45.00
International List $57.50
Members $25.00
(Please call SNAME to inquire about previous years' volumes)

Hydrodynamics Bulletins

Explanatory Notes for Resistance and Propulsion Data Sheets
[1-13]* 1953, 36 p. List $30.00 Members $15.00
(For companion Data Sheets, see page 7.)

Index to Model and Expanded Resistance Data Sheets, No. 1-175
[1-14]* 1958, 41 p. List $30.00 Members $15.00
(For companion Data Sheets, see page 7.)

How to Use the SNAME Small Craft Data Sheets [D-13] for Design and for Resistance Prediction
[1-23]* 1963, 43 p. List $36.00 Members $18.00
A complement to Data Sheet D-13 "Small Craft Data Sheets (see page 7).

Techniques for Estimating Vibratory Forces Generated by Propellers
[1-34]* 1975, 54 p. List $43.50 Members $21.75

Maximum Wave Conditions for Design
[1-37]* 1978, 34 p. List $30.00 Members $15.00

Ship Control Bibliography
[1-40] 1982, 196 p. List $30.00 Members $15.00

NEW FOR 1996
Notes on Ship Controllability (Revised)
[1-41] 1983, 41 p. List $30.00 Members $15.00

Design Workbook on Ship Maneuverability
[1-44]* 1993, 260 p. List $50.00 Members $25.00
Developed by Panel H-10 (Ship Controllability) to draw together available references and tools used in ship controllability design and present a congruous process for integrating them into the early design cycle. It is intended to be used in conjunction with other technical references such as the Controllability chapter of Principles of Naval Architecture. Presented in a modular format, it offers tools and rules of thumb for use in specific technical areas to aid in defining the controllability potential of a ship. Regulatory, operational, and technical viewpoints are presented to define a balanced picture of the compromises needed in design trade-offs.

Hull Structure Bulletins

Design of Typical Tanker Shell Longitudinals and Bottom Plating
[2-9]* 1964, 29 p. List $30.00 Members $15.00

***Publications marked as such are available by photo reproduction only.**

Higher Strength Steels in Hull Structures
[2-19]* 1971, 136 p. List $80.00 Members $40.00
Explores current design, fabrication and economic problems associated with the application of higher-strength steels in the major components of hull structure of merchant ships, one of the means of fulfilling the need for the ability to transport cargo at a lower cost per-ton-mile. Various classification societies' current rules and guidelines are discussed; comments are offered on advantageous ship proportions and certain areas of caution for designers and shipbuilders are defined.

Aluminum Fire Protection Guidelines
[2-21]* 1974, 148 p. List $43.00 Members $21.50
This bulletin describes two methods for designing the fire protection of aluminum structure in ships, the traditional "A", "B", "C" Class system and a new approach which bases protection on the fire exposure.

Guide for Quality Assured Fiberglass Reinforced Plastics Structures
[2-23]* 1977, 58 p. List $45.50 Members $22.75

Application of Probabilistic Design Methods to Wave Loads Prediction for Ship Structures Analysis
[2-27] 1982, 150 p. List $54.00 Members $27.00
The concept of applying probabilistic methods to the structural design of ships and other marine structures has aroused a great deal of interest in some quarters and skepticism in others. Partial application of probability theory in recent years has already had a profound effect in classification society rules. At the same time, many of the doubts and questions felt by some designers may be the result of a lack of clear, simple explanations of a subject which at first appears to be complicated and baffling. The present report attempts to provide a straightforward statement of one aspect of the subject—that of wave prediction.

NEW FOR 1996
Bibliography on Slamming, Impact and Other Transient Related Phenomena
[2-28] 1985,116p. List $30.00 Members $15.00

Guide for Analysis and Evaluation of Shipboard Hull Vibration Data
[2-29]* 1993, 26 p. List $30.00 Members $15.00
This report, originally prepared to identify the current problem areas of the 1984 ISO Standards and define the approach to the resolution of these problems, has been expanded to include consideration of the technical points noted at the ISO/TC 108 Meeting held in Kobe, Japan, 4-13 September, 1991. Recommendations are included to form the basis for updating the present ISO Standards. A preliminary draft of a proposed revision to ISO 6954 is included.

Notes on Ship Slamming
[2-30]* 1993, 80 p. List $40.00 Members $20.00
A review of ship forward bottom slamming problems are presented taking into account their history, causes and effects. Hydrodynamic as well as structural aspects of ship slamming, theoretical and experimental work are discussed. The construction requirements of various ship classification societies are identified as they relate to ship slamming. Design methods are suggested which it is believed will provide for developing ship forward bottom structure capable of improved structural performance under ship slamming loads.

Ships Machinery Bulletins

Marine Steam Power Plant Heat Balance Practices
[3-11] 1973, 133 p. List $55.00 Members $27.50
A revision of the universally accepted 1961 bulletin, which standardized the assumptions and allowances and methods of treatment of heat balance calculations, necessitated by changing practices and increasing capability of marine steam power plants.

Guide to the Design and Testing of Anchor Windlasses for Merchant Ships
[3-15]* 1964, 21 p. List $22.00 Members $11.00

Marine Diesel Power Plant Performance Practices
[3-27]* 1975, 61 p. List $47.00 Members $23.50

Marine Gas Turbine Power Plant Performance Practices
[3-28] 1976, 61 p. List $38.00 Members $19.00

Design Guide for Shipboard Airborne Noise Control
[3-37]* 1983, 357 p., 3 lbs. List $89.00 Members $44.50
After discussing noise criteria, an outline of a shipboard noise control plan is given to assist the designer in formulating approaches to meet the criteria. Guidelines on acoustical design practices are then given. A majority of the guide deals with noise prediction procedures using a source-path-receiver approach. Information on noise control treatments is given and three appendices are provided.

Guidelines for the Use and Applications of Marine Waste Heat Boilers and Waste Heat/Auxiliary Boiler Arrangements
[3-38] 1985, 15 p. List $19.00 Members $9.50

Guide for Shop and Installation Tests
[3-39] 1985, 92 p. List $31.50 Members $15.75
This guide presents information for a shop and installation test of each type of equipment and system normally found on commercial ships. This guide does not cover sea trial tests, which are covered in T&R Bulletin 3-47, "Guide for Sea Trials."

Maintenance Management Program for Automated Power Plants
[3-40] 1986, 64 p. List $23.00 Members $11.50

Guide for Centralized Control and Automation of Ship's Steam Propulsion Plant
[3-41]* 1986, 68 p. List $52.00 Members $26.00

Guidelines for the Use of Vibration Monitoring for Preventive Maintenance
[3-42] 1987, 98 p. List $51.00 Members $25.50

Guide to Propulsion Reduction Gear Alignment and Installation
[3-43] 1987, 26 p. List $30.00 Members $15.00

Guide for Sea Trials
[3-47]* 1989, 95 p. List $38.00 Members $19.00
Covers sea trials of self-propelled surface ships displacing 300 tons or more, powered by fossil fuel and driven by steam turbine, gas turbine, diesel engine or electric motors. It does not cover dock trials or tests or demonstrations which can be conducted dockside, which are covered in T&R Bulletin 3-39, "Guide for Shop and Installation Tests."

Study of Cable Splicing Techniques for Modular Ship Construction
[3-48] 1990, 111 p. List $40.00 Members $20.00

Marine Diesel Power Plant Practices
[3-49] 1990, 100 p. List $38.00 Members $19.00
Guidelines, practices and allowances suitable for use in preliminary stages of the design of marine diesel power plants for the propulsion of typical merchant ships. Intended to aid the designer in the use of engine manufacturers' performance data and to report plant design practices.

Ship Technical Operations Bulletins

Thermal Insulation Report
[4-7]* 1963, 150 p. List $104.00 Members $52.00
Results of investigation of the use of various insulation materials, and their proper application, for the purpose of obtaining the most satisfactory comfort conditions on shipboard in the most economical manner. Presentation of a method for determination of required insulation for sea going ships suitable for varying rates of heat transfer at different temperature levels taking into consideration economy of installation, construction, maintenance and weight.

Guide for Shipboard Crane Specifications
[4-12]* 1972, 65 p. List $50.00 Members $25.00

Coating Systems Guide for Exterior Surfaces of Steel Vessels
[4-15]* 1978, 24 p. List $36.00 Members $18.00
Compiled performance data and descriptions (including potentials and limitations) of the basic types of marine coatings in use for the protection of ships' hulls, decks and superstructures. Provides the ship designer, builder and operator with a convenient guide and reference to ship coatings.

Calculations for Merchant Ship Heating, Ventilation and Air Conditioning Design
[4-16]* 1980, 78 p. List $36.00 Members $18.00
This report has been prepared by Panel O–37 (HVAC Design) to standardize heating, ventilation, and air conditioning calculations for merchant ship designs.

Guide to Sources of Data on the Costs of Construction and Operation of Merchant Ships
[4-17] 1982, 28 p. List $24.00 Members $12.00

Abrasive Blasting Guide for Aged or Coated Steel Surfaces
[4-21] 1986, 28 p. List $30.00 Members $15.00

Use of Scale Models for Human Engineering Purposes in Ship Design and Construction
[4-22] 1988, 23 p. List $40.00 Members $20.00

***Publications marked as such are available by photo reproduction only.**

Tank Coatings Guide
[4-23]* 1990, 30 p. List $30.00 Members $15.00
Points out the pitfalls and potential problems that are inherent in any major tank coating job. By being aware of such difficulties, an owner and/or specifier can include in the specifications and procurement documents safeguards which will enhance the outcome. Intended as a resource for all those concerned with tank coating.

Marine Systems/Offshore Bulletins

SALE
Guidelines for Windtunnel Testing of Mobile and Offshore Drilling Units
[5-4] 1988, 23 p. List $30.00 Members $15.00
This bulletin describes wind tunnel testing procedures associated with the measurement of wind loads and wind effects on mobile offshore drilling units or "MODU's". Specifically, these procedures may be used for wind load studies associated with the evaluation of vessel stability and stationkeeping performance, and the bottom-founded stability of jack-up drilling units.

Guideline for Site Specific Assessment of Mobile Jack-up Units
[5-5] 1991, 12 p. List $15.00 Members $10.00

Site Specific Assessment of Mobile Jack-up Units
[5-5A] 1994, 6 lbs. List $ 70.00 Members $ 35.00
Preparation of this bulletin has been monitored by Panel OC-7 and has been drafted by the Working Group of the Joint Industry Sponsored project "Jack-up Site Assessment Procedures: Establishment of an International Technical Guideline."

Ship Design Bulletins

Two Model Weight Control Plans for Ships
[7-1] 1986, 49 p. List $25.00 Members $12.50

General Arrangement Drawing Format
[7-2] 1988, 7 p. List $28.00 Members $14.00

General Arrangement Drawing Details
[7-3] 1988, 13 p. List $38.00 Members $19.00

General Arrangement Design Criteria and Constraints
[7-4]* 1990, 42 p. List $26.00 Members $13.00
The design of a ship's General Arrangements is subject to a host of criteria and constraints stemming from physical, operational and mandated restrictions. These impositions on the ship design span a wide range of considerations reflecting owner or mission needs, legal requirements, operator considerations, safety, system needs, convention and support facilities. Since General Arrangements represents the core of a ship design, the criteria and constraints must be satisfied as a necessary condition to developing a viable craft.

SWATH Ships
[7-5]* 1992, 98 p. List $50.00 Members $25.00
A comprehensive understanding of the characteristics, capabilities and operationally effective domain of the SWATH hull concept.

Propeller Selection and Optimization Program
[7-6] 1993, 117p. List $30.00 Members $15.00
The principal scope of the program is the presentation of the user friendly PC based PSOP, along with its code, operable under the Microsoft DOS operating system. It considers 18 distinct cases of propeller selection and optimization conditions. Optimization is carried out using a one and two dimensional Fibonacci search technique. Propeller performance is evaluated using regressed databases of propeller thrust and torque coefficients.

Codes

Code for Shipboard Vibration Measurements
[C-1]* 1975, 35 p. List $30.00 Members $15.00

Local Shipboard Structures and Machinery Vibration Measurements
[C-4]* 1976, 28 p. List $25.00 Members $12.50

Acceptable Vibration of Marine Steam and Gas Turbine Main and Auxiliary Machinery Plants
[C-5]* 1976, 16 p. List $28.00 Members $14.00

Data Sheets

Model Resistance Data Sheets, Set of 28 Cargo Vessels
[D-1]* 1966 List $50.00 Members $25.00
Companion publications: 1-13 and 1-14

Model Resistance Data Sheets, Set of 12 Tugs
[D-7]* 1966 List $50.00 Members $25.00
Companion publications: 1-13 and 1-14

Model Resistance Data Sheets, Set of 12 Barges
[D-8]* 1966 List $50.00 Members $25.00
Companion publications: 1-13 and 1-14

Model Resistance Data Sheets, Set of 9 Trawlers
[D-9]* 1966 List $50.00 Members $25.00
Companion publications: 1-13 and 1-14

Model Resistance Data Sheets, Set of 11 Miscellaneous Ships
[D-10]* 1966 List $50.00 Members $25.00
Companion publications: 1-13 and 1-14

Propeller Data Sheets, Set of 3
[D-11]* 1966 List $20.00 Members $10.00
Companion publications: 1-13 and 1-14

Small Craft Data Sheets, Set of 16
[D-13]* 1967 List $50.00 Members $25.00
Companion publication: 1-23

***Publications marked as such are available by photo reproduction only.**

Technical & Research Reports

Resulting from investigations for the T&R Programs, these reports usually include useful information but may not represent conclusive research.

Dynamic Slosh Induced Loads on Liquid Cargo Tank Bulkheads
[R-19]* 1975, 18 p. List $20.00 Members $10.00

Effect of Rudder Rate on the Performance of a Large Tanker
[R-22] 1976, 18 p. List $20.00 Members $10.00

Results of a Survey on Shaft Alignment Procedures Used by American Shipyards
[R-25]* 1978, 12 p. List $20.00 Members $10.00

Reports on Damage and Losses Caused in Handling Cargo in the Marine Terminal and Related Areas
[R-29]* 1988, 60 p. List $50.00 Members $25.00

Seakeeping and Added Resistance of Sailing Yachts with Winglet Keels
[R-30]* 1989, 40 p. List $50.00 Members $25.00

Locus, A Variable-Geometry Sailboat—Construction, and Initial Experiments on Steering Qualities
[R-31]* 1989, 75 p. List $50.00 Members $25.00

Material Physical Properties of Sandwich-Core Panels with High-Strength Fiber-Reinforced Plastic Skins
[R-32]* 1989, 90 p. List $50.00 Members $25.00

Sea Trials, Model Test Correlations for 769-Foot Containership
[R-34]* 1989, 38 p. List $30.00 Members $15.00

Study of Ship Framing Systems
[R-36]* 1990, 26 p. List $30.00 Members $15.00

Fishing Vessel Limits Study
[R-37]* 1990, 43 p. List $30.00 Members $15.00

Vessel-Wave Interactions on an SL-7 Class Ship
[R-38]* 1990, 14 p. List $20.00 Members $10.00

Guide to Developing a Training Manual on the Use of Life-Saving Equipment
[R-40]* 1992, 11 p. List $20.00 Members $10.00

SOLAS 74/83, Chapter III, Regulation 51, requires that a training manual on use of lifesaving equipment be available on board merchant vessels approved to SOLAS 74/83 requirements. This manual development guide, presented by Panel 025, provides the shipowner/shipbuilder with guidance in complying with this requirement.

An Approach to Conducting Timely Structural Fatigue Analysis of Large Tankers
[R-41]* 1992, 21 p. List $30.00 Members $15.00

A rationally-based design and analysis procedure for computing fatigue damage of the Trans-Alaska Pipeline Service tankers is presented. The method considers not only damage due to hull girder bending, but also damage due to local panel pressure fluctuations. This task requires four basic steps: specifying a lifetime wave environment, generating a hydrodynamic model, calculating cyclic stresses due to the wave environment and computing the fatigue damage due to such stresses. The implementation of each step is discussed with an emphasis on applying existing research tools.

Seakeeping Considerations in Design and Operation of Hard Chine Planing Hulls
[R-42]* 1993, 124 p. List $50.00 Members $25.00

This report is the result of updated material prepared for lectures previously presented to the Carderock Division, Naval Surface Warfare Center to inform the small craft design, engineering, and test personnel of the analytical and experimental seakeeping techniques available to assist in making rational technical design decisions. The material now takes a tutorial form which is useful to designers of both military and commercial planing craft.

Experiments and Calculations of Four Wigley Hullforms
[R-43]* 1993, 110 p. List $30.00 Members $15.00

A Study on Reliability, Availability, Maintainability Data Banks for Ships
[R-45]* 1993, 44 p. List $30.00 Members $ 15.00

The Application of Superconducting Magnetohydrodynamics to Ship Propulsion: A State-of-the-Art Review
[R-46] 1993, 158 p. List $ 50.00 Members $25.00

Workshop on the Role of Hydrodynamics and the Hydrodynamicist in Ship Bridge Simulator Training
[R-47] 1993, 47p. List $30.00 Members $15.00

This workshop was a working meeting called by Panel H-10 (Ship Controllability) of the Society of Naval Architects and Marine Engineers (SNAME) to provide advice to the National Academy of Science's Marine Board Committee on "Ship Bridge Simulation Training". The workshop addressed the state of practice of matematical modeling ofship maneuvering and the appropriate role of hydrodynamics and the Hydrodynamicistin ship bridge simulator training. The hydrodynamic modeling process was reviewed witha focus on the technical product that can be delivered to the trainer from a hydrodynamics perspective.

Effects of Wake Shear on Duct Camber
[R-48] 1995, 70p. List $30.00 Members $15.00

The objective of this study is the first order effects on the design of propeller ducts of hull wake vorticity or shear. While there have been several competent studies of a similar nature, the procedure differs significantly from all others, allowing the motion equations to be reduced to integrations by "hand-turned" mathematics. Use is made of a transformed form for the pressure from the linearized Euler equations. An inhomogenous partial differential equation is obtained in which the shear contribution is in one term whose form suggests adoption of a class of shear flows. This class involves four parameters which, as demonstrated, can be computed to fit various measured ship model wakes. It is concluded that in the design of ducts the contributions due to wake shear must be included by using non-linear theory since application of ducts is generally warranted only for disc loadings well in excess of unity.

20th ITTC International Towing Tank Conference

Just as an increasingly competitive business climate resulting from the realignment of nations is increasing the demand for efficiency in marine systems, increased environmental awareness is demanding higher safety and reliability. But these are obviously not conflicting demands: An unsafe, unreliable ship is neither efficient nor economical. Some of the systems in which such demands are regularly encountered today include open-top container ships, ecologically benign tankers, safe and economical high-performance craft of a variety of configurations, and offshore structures advancing into deeper and more hostile ocean regions. The solutions to the special problems in the design of these systems or ships frequently involve model testing and sophisticated hydrodynamics analysis of the type provided by our members. The ITTC is the most important International forum for the exchange of information on the latest research developments valved in the solutions to these problems.

[SY-34] 1993, Volumes I and II, 6 lbs.
List $ 90.00 Members $ 45.00

Ship Structures Symposium

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